

**LOYALTY CAMERA AND A SYSTEM AND METHOD
FOR PROMOTING CONSUMER LOYALTY**

PRIORITY

The present application claims priority from co-pending provisional patent
5 application serial number 60/394155, Filed on July 3, 2002, and entitled LOYALTY
CAMERA AND A SYSTEM AND METHOD FOR PROMOTING CONSUMER
LOYALTY.

FIELD OF THE INVENTION

The present invention relates to the field of cameras and, more particularly, to a
10 camera which promotes consumer loyalty in the choice of film developing services.

BACKGROUND OF THE INVENTION

Many systems have been developed for encouraging consumers to return to a
particular establishment for film developing services. In the past, such loyalty programs
have provided free film replacement in exchange for developing the film in a certain
15 establishment. The free film was then loaded by the user into the user's own camera of
choice.

Other loyalty programs have involved cameras specifically dedicated to a specific
loyalty program or rental service.

The Forever Camera Co. of Boca Raton, Florida announced a reloadable, reusable
20 35 mm camera that comes pre-loaded with film and a battery. When a customer
purchases the camera from a "forever camera" retailer, the purchaser automatically
becomes a member of the Forever Camera Club. As a member, the customer qualifies
for free film and batteries whenever they bring the camera back to the lab with film for
processing. Although offering an incentive to the consumer to return to a Forever
25 Camera Club location for developing, the Forever Camera does not discourage in any
way reloading of the film by the consumer, or the taking of the film to another retailer for
developing. The Forever Camera is nothing more than a regularly configured 35 mm
camera.

U. S. Patent Nos. 5,708,856 to Cloutier and 5,752,085 to Cloutier et al. and
30 assigned to Eastman Kodak Company, relate to a rental camera with a locking device to

deter customer reuse after completed exposure. The '085 Cloutier et al. patent discloses a rental camera including a locking device with a key and keyhole arrangement. The Cloutier '856 patent includes a locking screw arrangement. Both Cloutier patents disclose rental cameras which are to be used by a customer for picture-taking and returned to a lender to unlock the film door and unload exposed film and replace with fresh film. A motor within the cameras of the '085 and '856 patents is used to rewind the exposed film into a cartridge.

Two loyalty cameras and systems having the film pre-wound in the camera under non-darkroom conditions have been offered by the present assignee. In the first loyalty camera system a camera was sold requiring a special key or tool to open the film door and remove the film cartridge. The camera containing the exposed film must be returned to the retailer of purchase, who exclusively has the special key tool used to open the film door and remove the film cartridge. Additionally, in that system, the special key tool is further required in combination with a mechanism located adjacent the film spool to pre-wind the unexposed 35mm film into a roll for use before the camera is returned to the consumer. The consumer then advances the film back into the film cassette after each exposure.

In the second loyalty camera system of the present assignee, the loyalty camera was sold having a sticker loosely adhered over the traditional style door latch to discourage the user from opening the camera. The packaging and marketing materials encourage the consumer to return the camera containing the exposed film to an affiliated retailer for removal and free replacement of the film. In that particular loyalty system, fresh film is pre-wound in the camera in non-darkroom conditions using a crank located adjacent the film spool and accessible through the outside cover of the camera.

The present assignee has additionally sold a locking loyalty camera including a motor for use in a loyalty camera system. The locking mechanism of that loyalty camera is disclosed in allowed United States Patent Application Serial No. 09/528,939, that patent application being incorporated herein by reference.

What is needed is an inexpensive loyalty camera and system wherein a particular mechanism is used by a camera store affiliate to rewind and remove exposed film from

the loyalty camera. What is additionally needed is a loyalty camera wherein the particular mechanism for rewinding is, in part, combined with the film advance mechanism. What is further needed is an inexpensive camera for promoting user loyalty. These objects, as well as others, are satisfied by the present inventions.

SUMMARY OF THE INVENTION

A loyalty camera is provided wherein a tool is required to rewind the exposed film and to assist in manipulating the film door latch. In one embodiment, the tool is used to manipulate a combined film advance/rewind mechanism to rewind the film. The
5 tool is used to bias a lever arm against a portion of the anti-reversal pawl to bias the pawl out of contact with the film advance mechanism and permit film rewinding.

Additionally, in some embodiments the particular tool is additionally used to move the door lever to open the film door.

Other objects and advantages of the present invention will become more readily
10 apparent in the description that follows.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing summary, as well as the following detailed description of the preferred embodiments, is better understood when read in conjunction with the appended drawings. For the purpose of illustrating the invention, there is shown in the drawings an exemplary embodiment that is presently preferred, it being understood however, that the invention is not limited to the specific methods and instrumentality's disclosed. Additionally, like reference numerals represent like items throughout the drawings. In the drawings:

Fig. 1 is a front perspective view of a loyalty camera in accordance with one embodiment of the present invention.

Fig. 2 is a rear perspective view of the loyalty camera of Fig. 1.

Fig. 3 is a rear perspective view of the main body of the camera of Fig. 2 having the front and rear covers removed.

Fig. 4 is a partial front perspective view of the camera of Fig. 1 including a tool, such as the tool shown in Fig. 6, engaged with the loyalty camera door latch.

Fig. 5 is a partial rear perspective view of the camera of Fig. 1 including a tool inserted into the door latch and pivoted to open the film door.

Fig. 6 is a side perspective view of a tool for use with one embodiment of the present inventions.

Fig. 7 is a top plan view of the tool of Fig. 6.

Fig. 8 is a bottom plan view of the tool of Fig. 6.

Fig. 9 is a rear partial perspective view of the camera of Fig. 1 including a tool engaged with an upper end cap of a combined film advance/rewind mechanism for rewinding the film in accordance with one embodiment of the present invention.

Fig. 10 is a partial perspective view of the combined film advance/rewind mechanism in accordance with one embodiment of the present invention.

Fig. 11 is a partial exploded view of the combined film advance/rewind mechanism of Fig. 10.

Fig. 12A is a side perspective view of an alternative embodiment of a tool for use with one embodiment of the present inventions.

Fig. 12B is a bottom plan view of the tool of Fig. 12A.

Fig. 12C is a top plan view of the tool of Fig. 12A.

Fig. 13 is a partial front perspective view of the camera of Fig. 1 including a tool, such as shown in Fig. 12A, engaged with the loyalty camera door latch.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Before explaining the disclosed embodiments of the present invention in detail, it is to be understood that the invention is not limited in its application to the details of the particular arrangement shown since the invention is capable of other embodiments. Also,
5 the terminology used herein is for the purpose of description and not of limitation.

Referring to Figures 1 - 11, the present invention is directed towards a new and improved loyalty camera 10 having means for restricting rewinding of the exposed film and for limiting removal and replacement of the film cartridge to those in possession of the particular tool used for these purposes. The camera 10 may be a reusable camera of
10 the type described in United States Patent No. 6,331,082, that patent incorporated herein by reference, but having a modified combined advance/rewind mechanism in place of the combined advance/rewind mechanism described in the '082 patent, as will be described below. Additionally, the camera may accept APS film, 35 mm film, or other film sizes.

The camera 10 has a main body 12 with a taking lens 20, a film cartridge
15 receiving compartment 14 disposed on one side of the taking lens 20 and a take-up spool (not shown) disposed on the opposite side of the taking lens 20, whereby the camera is structured for rewinding of exposed film into a film cartridge seated in the film cartridge receiving compartment from the take-up spool.

The camera 10 includes a film door 16 structured to mate with a latching member
20 18 on the main body 12 and provide access to the film cartridge receiving compartment 16 a battery compartment is accessible via a battery compartment door disposed beneath the main body 12. Front cover 13 and rear cover 15 are structured to mate with the main body 12 and film door 16 to form a light-tight casing.

A locking mechanism comprises the latching member 18 and the door lever 30.
25 Latching member 18 is structured to matingly engage a hook 16a extending perpendicularly upward from the film door 16 when the latching member 18 is in a first locking position. The latching member 18 may be the same as and may operate the same as actuator 324 described in connection with Figs 17F-17H of the previously incorporated '082 patent.

Door lever 30 is coupled to the latching member 18 through the camera housing 13 and 15 and secured to the camera body 12 by a screw 32. The outer face 30a of the door lever 30 in the present embodiment is designed to be substantially flat to prevent the fingers of a user from gaining purchase on the latch and opening the camera without the tool, prior to the exposed film being rewound. The door lever 30 includes a first hole 30b and a hole or indentations 30c. The screw 32 passes through the first hole 30b and secures the door lever 30 pivotally to the camera body 12. Both holes 30b and 30c are adapted to matingly engage an external tool 40 which is used to pivot the door lever 30 into the unlocked position. As described in the previously incorporated '082 patent, pivoting the door lever 30 into the unlocked position releases the hook 16a from the latching member 18, thereby permitting the film door 16 to be opened.

An external tool 40, having a pair of pins 42a and 42b are sized to engage holes 30b and 30c, respectively and to permit the door lever 30 to pivot from the locked to the unlocked position (as shown more particularly in connection with Figs. 4 and 5) in order to release the film door 16. Indicia may be provided on the top face of the tool 40 to instruct the user of its proper usage to open the film door 16.

The tool 40 also includes a generally circular-shaped area 44, having at least one outwardly extending prong 46, extending out from its bottom face 48. In the preferred embodiment, four pins 46 extend perpendicularly from the bottom face 48. Note however that the number of pins 46 used is merely a design choice based upon the length of the circumferential portion 80a of the lever arm (80 of Fig. 11).

The prongs 46 are structured and disposed to mate with corresponding holes 50a disposed through the upper end cap 50, as shown more particularly in Figs. 3 and 9. Upper end cap 50 sits on a generally cylindrical stem 54 connecting it to the film advance wheel 60. The holes 50a extend through the upper end cap 50 clear of the stem such that the prongs 46 may pass through the holes 50a to surround the cylindrical stem 54.

Referring more particularly to Figs. 10 and 11, upper end cap 50 is formed integrally with, or alternatively, engages, the film advance wheel 60. The film advance wheel 60 is secured to the camera body 12, through the post 54 and top plate 70 by the screw 52. The advance wheel 60 is restricted in motion to only a first direction by the

preventor-ratchet or anti-reversal pawl 72, permitting the film to be advanced before each exposure as known and as described in United States Patent No. 6325,555. Anti-reversal pawl 72 sits on a post 74 formed on the top plate 70. A torsion spring 78 is biased between a post 76 formed on the top plate 70 and the back surface of the catch post 72a extending perpendicularly upward from the top surface of the anti-reversal pawl 72. The torsion spring 78 is additionally centered on the post 74 which extends from the top plate 70 up through the anti-reversal pawl 72. The torsion spring 78 maintains an edge face 72b of the anti-reversal pawl 72 in contact with the toothed gear portion 60a of the film advance wheel 60, preventing the film advance wheel 60 from being turned in a direction counter to film advancement, while the anti-reversal pawl 72 is engaged.

Additionally, a lever arm 80 is pivotally mounted to the top plate 70 via the post 84. A pin 82 secures the lever arm 80 to the top plate 70. Lever arm 80 includes a circumferential portion 80a which, when assembled, is spring biased using a spring (not shown) into contact with the cylindrical stem 54 joining the end cap 50 with the film advance wheel 60. As the film advance wheel 60 is rotated, the circumferential portion 80a follows the surface of the cylindrical stem 54. When the prongs 46 of the tool 40 pass through the holes 50a of the upper end cap 50, they surround the generally cylindrical stem. In doing so, the prongs 46 force the lever arm 80 away from and out of contact with the generally cylindrical stem 54. When so biased by the tool 40, a spur 80b of the lever arm 80 pushes the catch post 72a of the anti-reversal pawl 72, biasing the end face 72b of the anti-reversal pawl 72 away from the film advance wheel 60, permitting the film advance wheel 60 to be rotated in either direction.

As noted above, the number of prongs 46 chosen on the tool 40 is based on the design of the lever arm 80. More particularly, the length and circumferential radius of the inner circumferential surface 80a of the lever arm 80 dictates the minimum number of prongs needed on the tool 46. For example, if the circumferential portion 80a were to extend around half the circumference of cylindrical stem 54 (of Fig. 11) or greater, perhaps only two prongs 46 may be required to bias the lever arm 80 away from the stem 54 for an entire rotation of the film advance/rewind wheel 60. In this example, any fewer prongs would cause the lever arm 80 to move out of contact with the anti-reversal pawl

72 and would halt the rewinding process. In the most preferred embodiment, four prongs 46 are used to ensure that the lever arm 80 is biased away from the cylindrical stem 54 at all times during the rewinding process.

When the tool 40 is removed from the upper end cap 50, the spring (not shown) returns the lever arm 80 to its normal, spring-biased position, bringing the circumferential portion 80a back into contact with the stem 54, and taking the spur 80b out of contact with the anti-reversal pawl. Torsion spring 78 returns the anti-reversal pawl edge face 72b back into contact with the gear toothed edge 60a of the film advance wheel 60, again preventing rotation counter to film advancement. Alternatively, other types of springs may be used in place of torsion spring 78.

In the preferred embodiment, the tool 40 also includes a handle 49 extending out from its top face 47, in generally perpendicular relation thereto, to facilitate grasping and rotation of the tool 40 during film rewinding.

In use, unexposed film is loaded into the camera 10 of the present invention through the film door 16. Using the film advance wheel, the APS film cartridge light lock door is opened and the film thrust from the cartridge as described in the previously incorporated '082 patent. As pictures are taken, the film is further advanced onto the film spool. Once all pictures have been exposed, the camera is returned in its entirety to a participating loyalty program processing affiliate. The affiliate takes the camera from the consumer, inserts the prongs 46 of the tool 40 into the holes 50a of the end cap 50 as shown in Fig. 9. Insertion of the tool causes the prongs 46 to bias the lever arm 80 away from the stem 54, causing the spur 27b to push against the catch post 72a of the anti-reversal pawl. The affiliate grasps the tool handle 49 and rotates the tool counter to the film advance direction in order to rewind the film back into the film cartridge. Once all film is rewound into the cartridge, the light lock door is automatically closed as described in the previously incorporated '082 patent. The affiliate then inserts the pins 42a and 42b into the holes 32b and 32c of the door lever 30, respectively, as shown in Fig. 4. The tool is pivoted in the direction of arrow X, as shown in Fig. 5, in order to pivot the door lever 30 and the latching mechanism 18, which releases the hook 16a and opens the film door 16 in the direction of arrow Y. The affiliate removes the rewound film cartridge and

processes the film, returning both developed prints and the original camera to the consumer. In one embodiment, the affiliate additionally returns to the consumer a new unexposed roll of film, which the consumer can slide into the film cartridge receiving chamber 14, snapping the film door 16 closed behind it. In another embodiment, the affiliate loads a new roll of unexposed film into the film cartridge receiving chamber 14, and snaps the film door 16 closed behind it. Most preferably to the loyalty program described herein, the new roll of film is provided to the consumer free of charge. The consumer is charged only for the developed prints and (if desired) the initial purchase of the camera 10.

Referring now to Figs. 12A-12C, there is shown another embodiment of a tool 40' useful with the loyalty camera of the present invention. The tool 40' is similar in most respects to the tool 40 with the exception that the pins 42a' and 42b' for contacting the holes 30b and 30c, respectively, in the door latch 30 are on the upper face of the tool 40' instead of at the end of the tool. In use, the tool 40' is used to open the door latch 30 as shown in Fig. 13. For example, the pins 42a' and 42b' on the upper surface 40a' of the tool 40' engage the holes 30b and 30c of the door latch 30 such that the upper surface 40a' of the tool 40' is parallel to the outer surface 30a of the door latch. The rewinding functionality of the tool 40' is identical to that described in connection with tool 40.

While the invention has been described with reference to certain embodiments, it will be understood by those skilled in the art that various changes may be made and equivalents may be substituted for elements thereof without departing from the scope of the invention. For example, the presently described restricted combined advance/rewind mechanism can be adapted for use in a system wherein the film is pre-wound in non-darkroom conditions, as is described in U.S. Patent No. 6,325,555, that patent incorporated herein by reference, or for use with a 35mm or other film type camera. Additionally, although the present loyalty camera is described as using a tool to operate both the rewind mechanism and the door lever, it can be seen that the present loyalty system may be implemented wherein the particular tool is used to operate only one of the rewind mechanism and the door lever, permitting the consumer to freely operate the other of the rewind mechanism and the door lever. In addition, many modifications can be

made to adapt a particular situation or material to the teachings of the invention without departing from the essential scope thereof. Therefore, it is intended that the invention not be limited to the particular embodiment disclosed as the best mode contemplated for carrying out this invention, but that the invention will include all embodiments falling
5 within the scope of the appended claims.